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Investigation of the influence of heated catalyst feeding system on the intensity of temperature-dependent chemical reaction in the fluidized bed apparatus

Soloveva O., Solovyev S.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© Published under licence by IOP Publishing Ltd.A mathematical model was developed and a numerical study of operation parameters of the fluidized bed apparatus for temperature-dependent processes was performed. Fields of catalyst concentration and temperature fields were obtained. The circulation flow analysis was carried out. The effect of the influence of heated catalyst feeder on the efficiency of apparatus heating was analyzed. The change of the circulating gas flows and catalyst structures due to changes in the heated catalyst feeder was shown. The influence of the catalyst fractional composition on the efficiency of apparatus heating was studied.

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